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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,585	04/15/2004	Sung-Su Jung	8734.291.00 US	6636
30827 7590 01/08/2009 MCKENNA LONG & ALDRIDGE LLP 1900 K STREET, NW WASHINGTON, DC 20006				
EXAMINER				
TUROC, DAVID P				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/824,585

Applicant(s)

JUNG ET AL.

Examiner

DAVID TUROCY

Art Unit

1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12, 15-25 and 34-40 is/are pending in the application.
- 4a) Of the above claim(s) 1-11 and 34-40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12 and 15-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB08)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Paper No(s)/Mail Date _____
- 6) ☐ Other: _____
- 7) ☐ Notices of Informal Patent Application
- 8) ☐ Paper No(s)/Mail Date 7/9/08

DETAILED ACTION

Response to Amendment

1. Applicant's amendments, dated 9/19/2008, have been fully considered and reviewed by the examiner. The examiner notes the amendment to claims 12 and the cancellation of claims 13-14 and 26-33. Claims 1-12, 15-25, and 34-40 remain pending, with claims 1-11 and 34-40 withdrawn due to a restriction requirement.

Response to Arguments

2. Applicant's arguments with respect to claim have been considered but are moot in view of the new ground(s) of rejection.

The applicants have argued against the JP '160 reference, stating that the reference is directed to nozzle height requirements and therefore can not teach the claimed invention. The examiner does not disagree that JP '160 discloses aligning the dispenser in the vertical frame, however, the examiner maintains that JP '160 teaches a method of aligning a dispenser to forming a sealant layer on a LCD substrate. An aligning substrate 6 is used to achieve proper nozzle alignment. The nozzle can contact the aligning substrate while the LCD substrate is loaded on the table. *JP '160 reasonably teaches the use of a fixed aligning substrate that is not required to be loaded/unloaded on the table.* It would have been obvious to one of ordinary skill in the art at the time of invention to have provided a fixed aligning substrate in the method of ASA with a reasonable expectation of success because JP '160 teaches that such a method of aligning is operable in the LCD deposition art.

All other applicant arguments are directed to newly amended claims and are thus deemed moot. The amendment is discussed in the rejections that follow.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 12, 15-25 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 10-16 of copending Application No. 10/699854. Application 10/699854 discloses all the limitations of the instant invention, except using a first and second camera, however Application 10/699854 discloses a first camera and a first and second alignment mark and therefore it would have been obvious to one of ordinary skill in the art to have used

a first and second camera in the process of Application 10/699854 with a reasonable expectation of success.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

5. Claims 12, 15 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 10-16 of copending Application No. 10/717717 in view of ASA. Application 10/717717 discloses all the limitations of the instant invention, except using a first and second camera and attaching an alignment plate to the table having a mark, however ASA discloses using a first camera and therefore taking the references collectively, it would have been obvious to one of ordinary skill in the art to have used a first and second camera in the process of Application 10/699854 with a reasonable expectation of success.

Additionally, 10/717717 discloses a first and second dummy substrate, but fails to disclose providing an alignment plate on a table having a mark, however, it would have been obvious and predictable to have modified 10/717717 in view of ASA to have placed a first dummy substrate and create a first alignment mark (i.e. a table with a mark) and thereafter place a second dummy substrate (alignment plate) on the table with an alignment mark thereon.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 12, 15-25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claims include attaching an alignment plate having a first alignment mark to the side of a table, however, the examiner, after a review of the specification, can not locate support in the specification for the attaching to the table an alignment plate with a reference mark. Specifically, the examiner notes the specification appears to disclose the table has an alignment mark and the alignment plate is attached and then an mark is applied by the syringe to the alignment plate, rather than attaching an alignment plate with a reference mark to the table.

If the applicant can provide proper support for the claim amendment, the examiner will withdraw the 35 USC 112 1st paragraph rejection.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 12, 15-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over ASA in view of JP05-345160 A by Katsuyoshi, hereafter JP '160 and further in view of JP 2003142816 A, hereafter JP '816.

ASA discloses, at figures 4A-4F and accompanying text in disclosure, detecting the position of a first and second alignment mark, on an alignment plate on a table, using a first and second camera, moving the substrate in X and Y direction to align positions as required by the claims. ASA discloses (0023 of printed publication) seal patterns are thereafter formed on the substrate after aligning the syringes. ASA discloses LCD substrates, which are placed on the table and can therefore be considered coplanar with the dummy substrate.

ASA discloses aligning the substrate onto a table, wherein the table has an alignment mark, and the syringes are lowered so that the nozzles just come into contact with the surface of the aligning substrate. Then the aligning substrate is unloaded, a LCD substrate is loaded on the table, and a seal pattern is formed on the LCD substrate [0016], such is a process is repeated for various substrates. The table can be moved in the left/right and forward/backward directions [0013]. ASA discloses moving the table and moving the camera (figure 4F) to align the marks as required by the claim.

ASA does not explicitly teach that the aligning substrate can be attached to a side surface of the table. However, JP '160 teaches a method of aligning a dispenser to forming a sealant layer on a LCD substrate. An aligning substrate 6 is used to achieve

proper nozzle alignment. The nozzle can contact the aligning substrate while the LCD substrate is loaded on the table. JP '160 reasonably teaches the use of a fixed aligning substrate that is not required to be loaded/unloaded on the table. It would have been obvious to one of ordinary skill in the art at the time of invention to have provided a fixed aligning substrate in the method of ASA with a reasonable expectation of success because JP '160 teaches that such a method of aligning is operable in the LCD deposition art.

JP '160 displays in Fig. 4 that the aligning substrate 6 is positioned close to a table on which the substrate 2 is placed, but does not explicitly teach that the aligning substrate is attached to a side surface of the table. However, the nozzle contacts the aligning substrate while the LCD substrate has been loaded onto the table, so the table must be moved so that the position of the nozzle can be moved from the aligning substrate to the LCD substrate. The distance that the table must move can be reduced as the aligning substrate is positioned closer to the table, thereby increasing productivity. Attaching the aligning substrate to the table would allow for the smallest distance between the nozzle and the substrate. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to have attached the aligning substrate to the table in the method of JP '160 with a reasonable expectation of success. One would have been motivated to do so in order to have increased productivity.

ASA in view of JP '160 fails to disclose attaching an alignment plate having a first mark to a table. However, JP 816 discloses a method for determining the location of

the syringe, discloses first location detection based on a reference point and a second reference location based on a trial spread (0004). Therefore, it would have been obvious to include a mark on an alignment plate, as a starting reference position, with a reasonable expectation of successful and predictable results to effectively calibrate and align the deposition nozzles.

Claim 15-16: these claims are discussed above.

Claim 17-18: The process as taught by ASA in view of JP '160 will necessarily be completed multiple occasions (see ASA at 0024), therefore the alignment plate will be attached before and after loading an LCD substrate as required by the claim.

Claim 19-21: These claims are discussed above.

Claim 22: ASA in view of JP '160 fails to disclose a third alignment mark, however, ASA disclose using alignment marks to align syringes and providing a third alignment mark as well detecting images of third image would have been obvious to one of ordinary skill in the art because one of ordinary skill in the art would recognize that additional readings for aligning a dispenser would be advantageous to achieve the desired results.

Claim 23: JP '160 discloses ascending and descending the syringe.

Claim 24: This claim is discussed above.

Claim 25: ASA discloses alignment marks having a cross section, i.e. horizontal and vertical patterns (figures).

10. Claims 12, 15-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over ASA in view of JP05-345160 A by Katsuyoshi, hereafter JP '160 and further in view of US Patent Publication 20030081077 by Nakamura et al., hereafter Nakamura.

ASA in view of JP '160 discloses all that is taught above in section 9, however, the references fail to disclose reference mark on an alignment plate, however, Nakamura discloses aligning nozzles for depositing a material for optical elements, discloses including in the system a member with a reference mark therein (0009), the reference mark being formed depressed into the member surface.

Therefore, taking the reference collectively, it would have been obvious to one of ordinary skill in the art at the time of the invention to have provided a calibration station, as taught by JP '160, with a reference mark within the alignment plate to provide predictable and proper nozzle alignment. As for the requirement of both a member with a reference mark and deposition of a reference mark, such are taught as known method of aligning nozzles and therefore the combination of the two methods would have been obvious to one of ordinary skill in the art because one of ordinary skill in the art would recognize that additional readings, from different alignment sources, for aligning a dispenser would be advantageous to achieve the desired results.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID TUROCY whose telephone number is (571)272-2940. The examiner can normally be reached on Monday-Friday 8:30-6:00, No 2nd Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David Turocy/
Examiner, Art Unit 1792

/Timothy H Meeks/
Supervisory Patent Examiner, Art Unit 1792